100

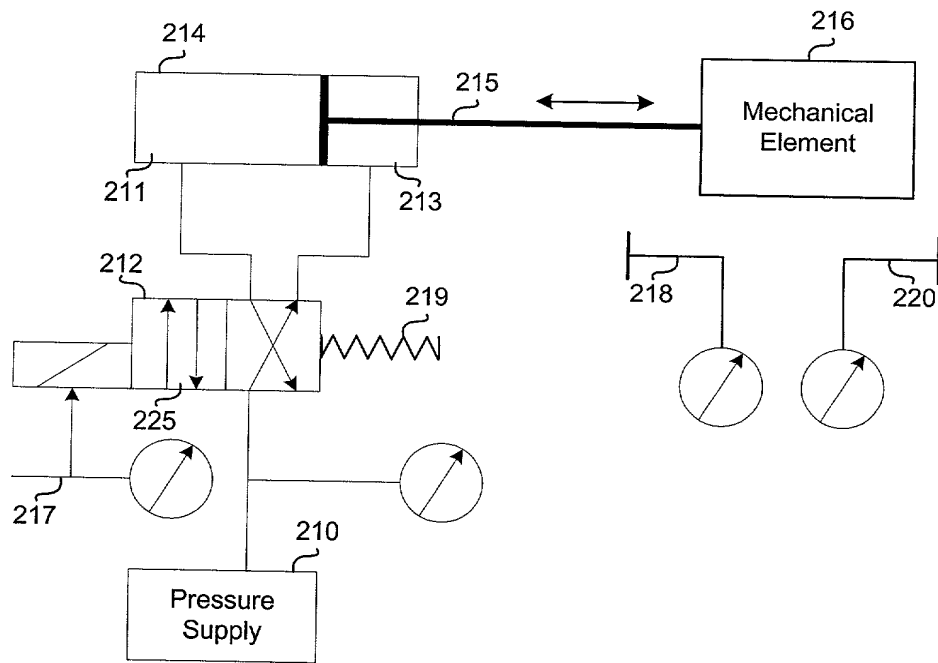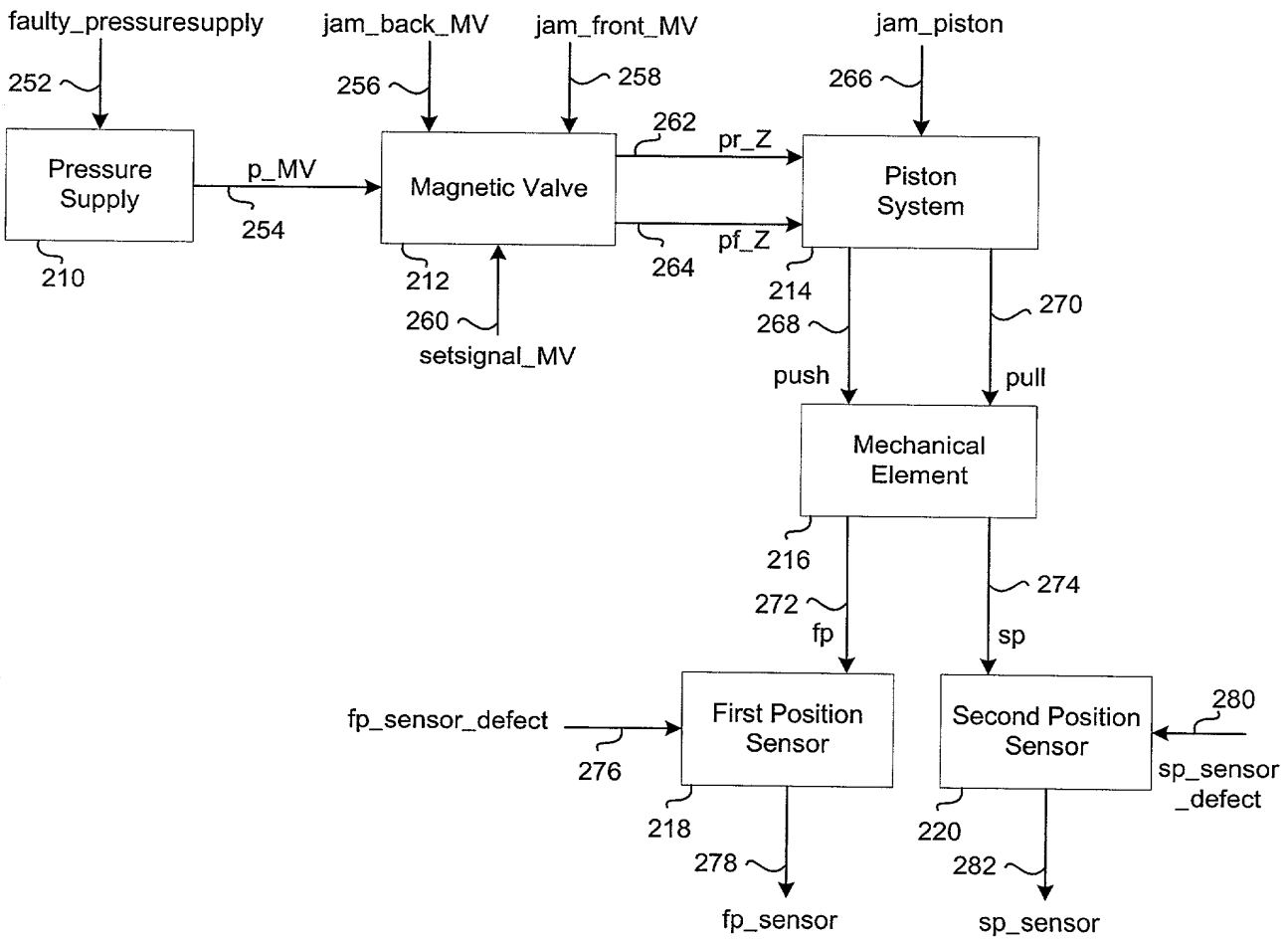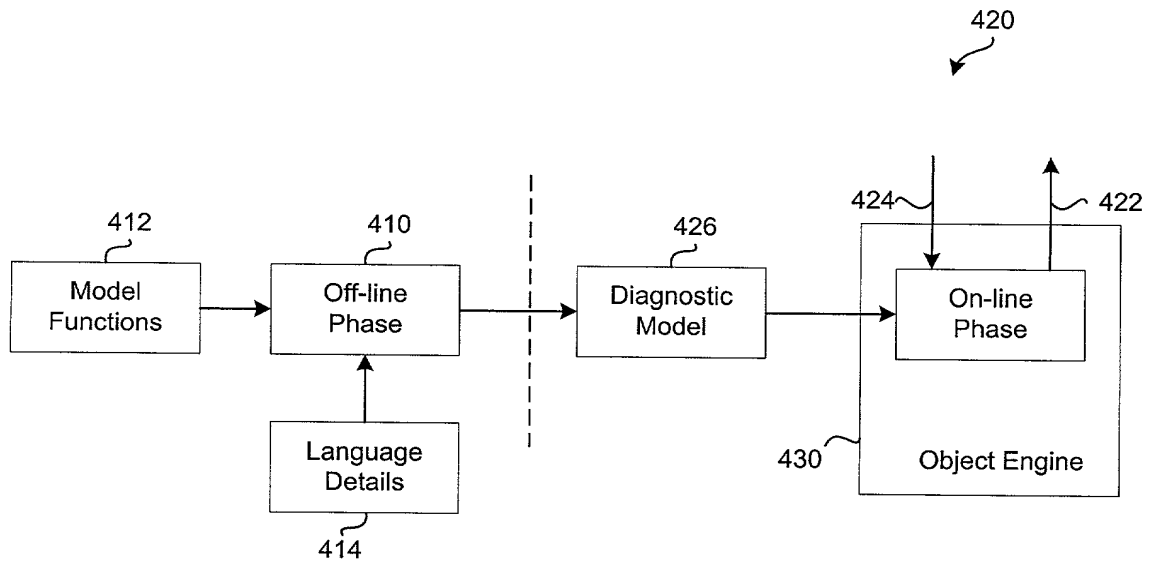| Fault	Symbol	Effect of Fault	
			~102
Fault in the pressure supply	faulty_pressuresupply= 0	Pressure failure such that the piston can no longer be moved	~104
Magnetic valve jammed to back	jam_back_MV	Pressure in rear part of the chamber is higher	~106
Magnetic valve jammed to front	jam_front_MV	Pressure in front part of the chamber is higher	~108
Jammed piston	jam_piston	Output signal that piston can no longer be moved	~110
Sensor for first position is defective	fp_sensor_defect	Sensor always reads 0	~112
Sensor for second position is defective	sp_sensor_defect	Sensor always reads 0	~114

FIG. 1

FIG. 2

faulty_pressuresupply   jam_back_MV   jam_front_MV   jam_piston

252   256   ⌇ 258   266

Pressure   p_MV   Magnetic Valve   262   pr_Z   Piston
Supply   System
                254   pf_Z
210   212   264
                260   214   270
              setsignal_MV   268
                                                      push   pull

                                             Mechanical
                                             Element
                                             216
                                             272
                                             fp   sp

fp_sensor_defect   First Position   Second Position   280
                          Sensor   Sensor
                276   sp_sensor
                          218   220   _defect
                          278   282

                          fp_sensor   sp_sensor

FIG. 3

420

412   410   426   424   422

Model Functions	→	Off-line Phase		Diagnostic Model	→	On-line Phase

| Language Details |

414

430   Object Engine

FIG. 4

Message	Diagnostic	
sp_sensor = 0 fp_sensor = 1 p_MV = 1 setsignal = 1	faulty_pressuresupply= 0 fp_sensor_defect = 0	~510
sp_sensor = 0 fp_sensor = 0 p_MV = 1 setsignal = 1	faulty_pressuresupply= 0	~512
sp_sensor = 1 fp_sensor = 0 p_MV = 1 setsignal = 1	faulty_pressuresupply= 0	~514
sp_sensor = 1 fp_sensor = 0 p_MV = 1 setsignal = 0	faulty_pressuresupply= 0	~516
sp_sensor = 0 fp_sensor = 0 p_MV = 1 setsignal = 0	faulty_pressuresupply= 0	~518
sp_sensor = 0 fp_sensor = 0 p_MV = 1 setsignal = 0	faulty_pressuresupply = 0 fp_sensor_defect = 0.8 jam_back_MV = 0 jam_front_MV = 0 sp_sensor_defect = 0 jam_piston = 0.2 faultygrad = 1	~520

FIG. 5